Electronic TUBES

6EZ5

BEAM PENTODE

FOR TV VERTICAL-DEFLECTION-AMPLIFIER APPLICATIONS

DESCRIPTION AND RATING

The 6EZ5 is a beam-power pentode designed for use as the vertical-deflection amplifier in television receivers that employ 110-degree deflection picture tubes. Features of the tube include high perveance and high plate dissipation.

GENERAL

ELECTRICAL

Cathode—Coated Unipotential

Heater Voltage, AC or DC	6.3±10%	Volts
Heater Current	0.8	Amperes
Direct Interelectrode Capacitances, approximate*		
Grid-Number 1 to Plate	0.6	μμf
Input	9.0	μμf
Output	7.0	μμf

MECHANICAL

Mounting Position—Any
Envelope—T-9, Glass
Base—B6-81, Intermediate-Shell Octal 6-Pin

MAXIMUM RATINGS

VERTICAL-DEFLECTION-AMPLIFIER SERVICE†
DESIGN-MAXIMUM VALUES

DC Plate Voltage	350	Volts
Peak Pulse Plate Voltage	2500	Volts
Screen Voltage	300	Volts
Plate Dissipation‡	12	Watts
Screen Dissipation‡	2.75	Watts
DC Cathode Current	75	Milliamperes
Peak Cathode Current	260	Milliamperes
Heater-Cathode Voltage		
Heater Positive with Respect to Cathode		
DC Component	100	Volts
Total DC and Peak	200	Volts
Heater Negative with Respect to Cathode		
Total DC and Peak	200	Volts
Grid-Number 1 Circuit Resistance		
With Cathode Bias	2.2	Megohms
With Fixed Bias	1.0	Megohms
Bulb Temperature at Hottest Point	200	C

Design-Maximum ratings are limiting values of operating and environmental conditions applicable to a bogey tube of a specified type as defined by its published data, and should not be exceeded under the worst probable conditions.

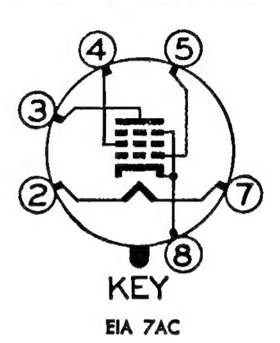
The tube manufacturer chooses these values to provide acceptable serviceability of the tube, taking responsibility for the effects of changes in operating conditions due to variations in tube characteristics.

The equipment manufacturer should design so that initially and throughout life no design-maximum value for the intended service is exceeded with a bogey tube under the worst probable operating conditions with respect to supply-voltage variation, equipment component variation, equipment control adjustment, load variation, signal variation, and environmental conditions.



Supersedes ET-T1536, dated 6-59.

BASING DIAGRAM

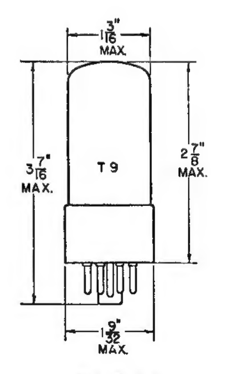


EIA 7AC

TERMINAL CONNECTIONS

Pin 2—Heater
Pin 3—Plate
Pin 4—Grid Number 2 (Screen)
Pin 5—Grid Number 1
Pin 7—Heater
Pin 8—Cathode and Beam Plates

PHYSICAL DIMENSIONS



EIA 9-15

CHARACTERISTICS AND TYPICAL OPERATION

AVERAGE CHARACTERISTICS

Plate Voltage	60	250	Volts
Screen Voltage	250	250	Volts
Grid-Number 1 Voltage	0§	−20	Volts
Plate Resistance, approximate	...	50000	Ohms
Transconductance	...	4100	Micromhos
Plate Current	180	43	Milliamperes
Screen Current	26	3.5	Milliamperes
Grid-Number 1 Voltage, approximate Ib=100 Microamperes	...	−50	Volts

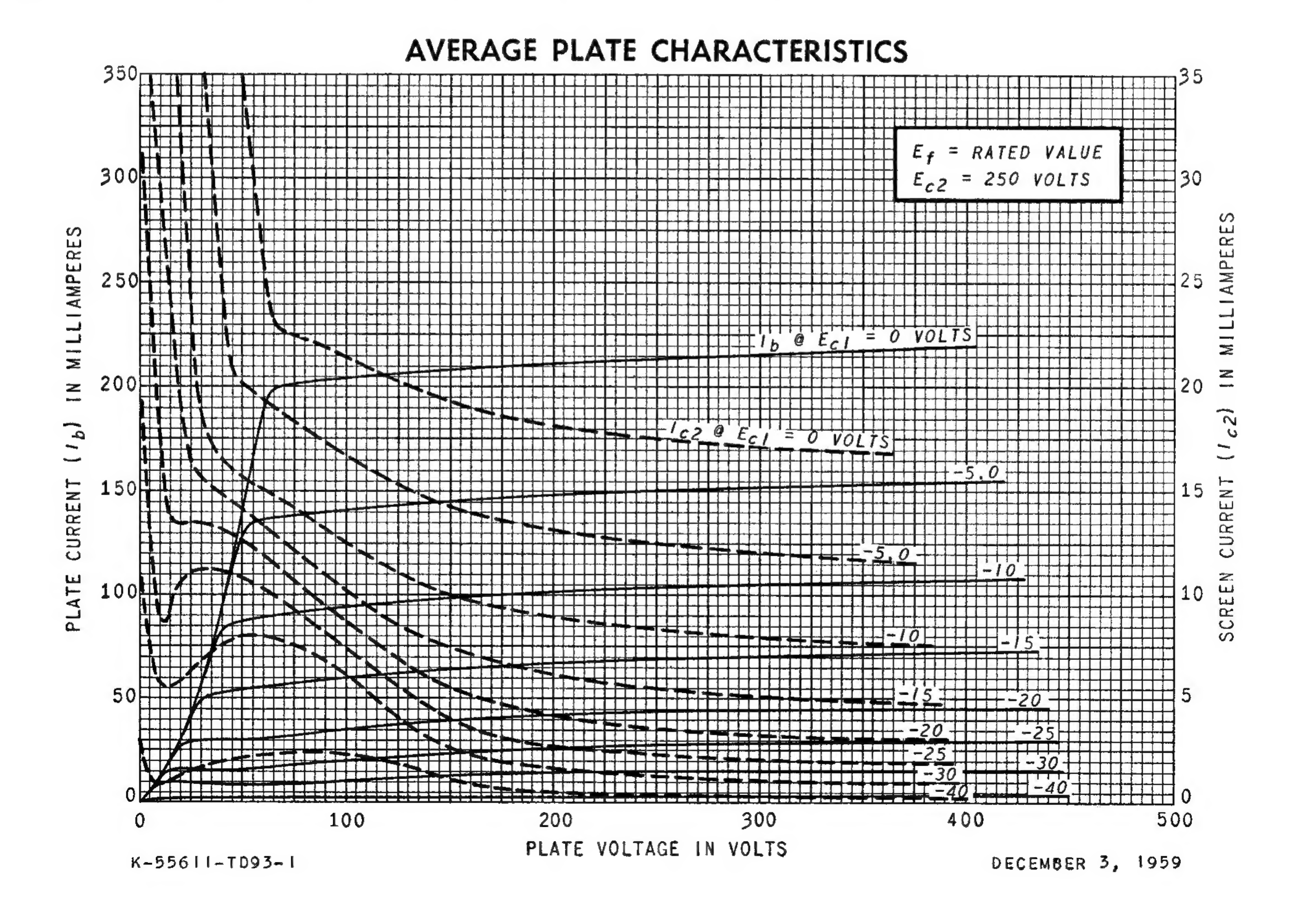
* Without external shield.

† For operation in a 525-line, 30-frame television system as described in "Standards of Good Engineering Practice Concerning Television Broadcast Stations," Federal Communications Commission. The duty cycle of the voltage pulse must not exceed 15 percent of one scanning cycle.

‡ In stages operating with grid leak bias, an adequate cathode-bias resistor or other suitable means is required to protect the tube in the absence of excitation.

§ Applied for short interval (two seconds maximum) so as not to damage tube.

AVERAGE PLATE CHARACTERISTICS



AVERAGE PLATE CHARACTERISTICS

E_f = RATED VALUE
E_{c1} = 0 VOLTS

I_b @ E_{c2} = 250 VOLTS
I_{c2} @ E_{c2} = 250 VOLTS
200
200
150
150
100
150
100
50
100
50

PLATE CURRENT (I_b) IN MILLIAMPERES
0 50 100 150 200 250 300 350

SCREEN CURRENT (I_{c2}) IN MILLIAMPERES
0 5 10 15 20 25 30 35

0 100 200 300 400 500
PLATE VOLTAGE IN VOLTS

K-55611-TD93-2
DECEMBER 3, 1959

AVERAGE TRANSFER CHARACTERISTICS

E_f = RATED VALUE
E_b = 250 VOLTS

E_{c2} = 250 VOLTS
200
150
100
50

PLATE CURRENT IN MILLIAMPERES
0 20 40 60 80 100 120 140

-50 -40 -30 -20 -10 0
GRID-NUMBER 1 VOLTAGE IN VOLTS

K-55611-TD93-3
DECEMBER 3, 1959

AVERAGE TRANSFER CHARACTERISTICS

E_f = RATED VALUE
E_b = 250 VOLTS

E_{c2} = 250 VOLTS, 200, 150, 100, 50

SCREEN CURRENT IN MILLIAMPERES: 0, 2, 4, 6, 8, 10, 12, 14

GRID-NUMBER 1 VOLTAGE IN VOLTS: −50, −40, −30, −20, −10, 0

K-55611-TD93-4

DECEMBER 3, 1959

